

TECH data

7	2	5
8	3	6
9	4	7

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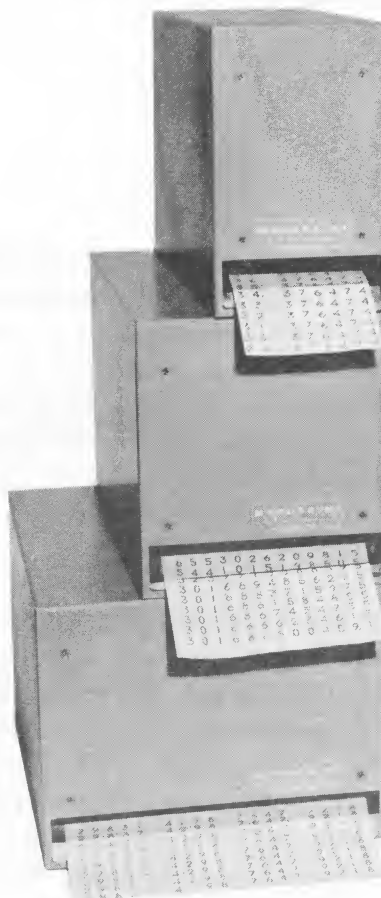
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Preliminary Bulletin 602

MODUPRINT**DATA PRINTERS**



These new tape printers are based upon our Count Modules, described in Bulletin 601. They may, therefore, be employed to print accumulated quantity, time, date, or parallel input digital data of any kind. A determined effort has been made and realized to produce a series of instruments that:

ARE FITTED EXACTLY TO THE SPECIFIC JOB. Three standard sizes are offered, accomodating a maximum of 9, 14, or 20 digits. These digit slots accept any combinations for serial counting or information entry, with special symbol wheels equally available. The smallest size, printing on 2 1/2" tape may, for instance, be a 4 digit serial counter plus a time accumulator up to 23:59, a 6 digit serial counter plus a 2 digit index, 2 independent 4 digit serial counters, or a 9 digit parallel input data printer, etc. Obviously, the larger the frame, the greater the number of possible combinations. Space is provided inside the main frame for the incorporation of the user's special circuitry for switching or data conversion. We solicit such special circuit work as an adjunct to our standard controls. In part the standard controls fit into the printer on a printed circuit board that attaches to the back of the modules.

ARE COMPLETELY SELF-CONTAINED. Apart from any special requirements, and in contrast to previous equipment of this general type, nothing is asked from the user other than power, input commands, and print command. Upon receipt of the print command, incoming counts are cut out, the print solenoid is energized (causing print) and paper is advanced, as is the inked ribbon. Should a time signal be coming in, print is inhibited. Also, after the print, an oscillator may be triggered, resetting those digits so instructed. Special modifications of this basic sequence may be installed as ordered.

ARE HIGH IN PERFORMANCE AND VERSATILITY. To our knowledge, performance is far in excess of functionally comparable instruments. For instance: Moduprint serial counting rates are 40 or 80 per second and Moduprint reset time is 200 milliseconds maximum (can be faster). Count Module life is estimated over 100 million steps and as any unit may be exchanged with any other, wear may be averaged by rotation to produce life considerably beyond the figure mentioned. Then, too, each Count Module may be replaced in a matter of seconds by unskilled personnel, minimizing any problems of maintenance. Every element in the Moduprinter is easily serviced and not demanding of finicky adjustment.

EMPLOYS STANDARD COMPONENTS. The ribbon mechanism is complete, self-reversing, and spooled. Both ribbons and paper may be purchased from any well-stocked stationer. There are three sizes of paper rolls, 2-1/2", 4", and 6". The 5 yard ribbon is adequate for hundreds of thousands of impressions. With Moduprint the buyer is not the captive customer of the manufacturer for special high-priced ribbons or paper.

IS VERY LOW IN PRICE. For example, a 5 digit assembly, with 10 or 12 position printing wheels, for serial counting or parallel input, with complete solid state controls, requiring only command signals and power to operate - sells at list for under \$175, subject to quantity discounts. Every effort has been made to bring prices down, with no concessions to reduction of performance.

CONSTRUCTION AND CIRCUITRY

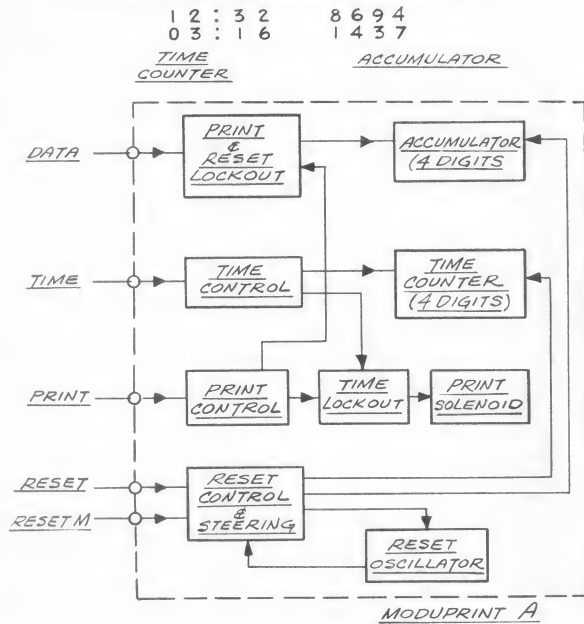
The three standard sizes of Moduprinters measure 3-7/16", 4-15/16", and 6-15/16" wide, 5-7/8" high on the panel, by 8" deep. There are two main structural sections; the frame and the enclosure into which it slides through a cut-out in the user's panel. Alternatively, by a change of the front panel to the width and height dimensions of the enclosure, the Moduprinter converts to table mounting. The enclosure itself is fastened flush to the front of the panel, hanging on adjustable flanges. All external electrical connections are made from a terminal strip projecting from the rear of the enclosure. The Moduprinter frame itself plugs into the enclosure and may be fully extracted for changing of ribbon or paper loading. The chamber containing the Count Modules is attached to the front plate and may be pivoted up to expose the bottom of this section showing the printing wheels (as for manual time-setting), and the top for circuit checking. The panel is cam-locked in position. The control section is located at the rear of the frame beneath the paper and is, in itself, a separate module, easily supplemented, checked or changed. This design characteristic extends to every element and section of the printer. As a result, should configuration change be needed, this can be done in the field in most cases.

Printed data issues from the front, with results visible in 2 lines of print. The digit symbol, or letter, as the case may be, is the largest, to our knowledge, produced by any printer anywhere. Digits measure .160" high x .100" wide and are easily visible from a distance. Moduprinters are normally designed for 12 or 24 Volt DC operation, but a power supply for 115 Volt AC line operation can be furnished.

Information on driving circuitry for the Count Modules themselves will be found in the 601 series bulletins.

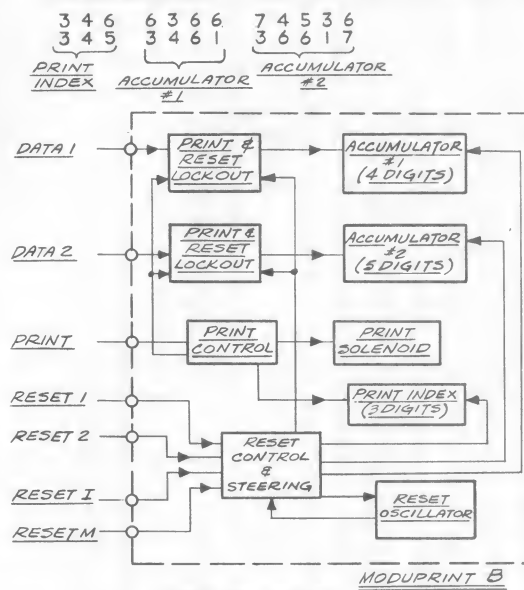
6 3 4 6 1 2 7 5 8 9 ACTUAL SIZE OF DIGITS

TYPICAL APPLICATION FOR MODUPRINT A



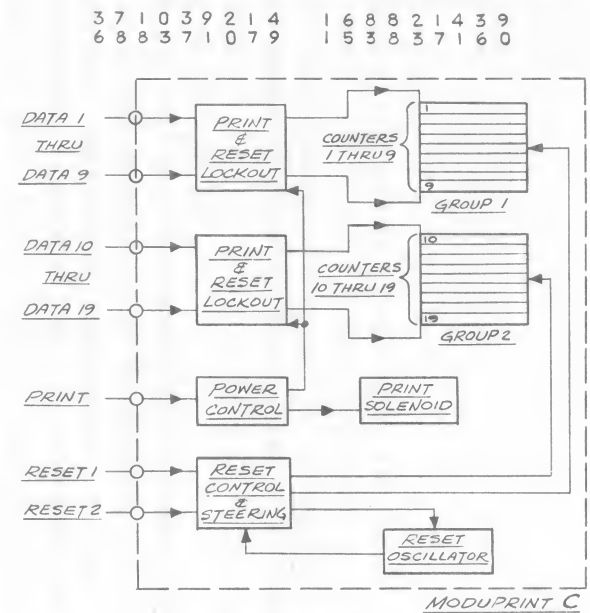
INPUT DEFINITIONS
 DATA - SERIAL DATA TRAIN TO BE ACCUMULATED
 TIME - TIME INPUT (ONE PULSE PER MINUTE)
 PRINT - PRINT COMMAND
 RESET - COMMAND RESETTNG ACCUMULATOR TO ZERO
 RESET M - COMMAND RESETTNG ACCUMULATOR AND TIME COUNTER TO ZERO

TYPICAL APPLICATION FOR MODUPRINT B



INPUT DEFINITIONS
 DATA 1 - SERIAL DATA TRAIN TO BE ACCUMULATED
 DATA 2 - SERIAL DATA TRAIN TO BE ACCUMULATED
 PRINT - PRINT COMMAND
 RESET 1 - COMMAND RESETTNG ACCUMULATOR 1 TO ZERO
 RESET 2 - COMMAND RESETTNG ACCUMULATOR 2 TO ZERO
 RESET I - COMMAND RESETTNG PRINT INDEX REGISTER TO ZERO
 RESET M - COMMAND RESETTNG ENTIRE PRINTER TO ZERO

TYPICAL APPLICATION FOR MODUPRINT C



INPUT DEFINITIONS
 DATA 1 THRU 19 - INDIVIDUAL PARALLEL PULSE TRAIN INPUTS
 PRINT - PRINT COMMAND
 RESET 1 - COMMAND RESETTNG GROUP 1 COUNTERS TO ZERO
 RESET 2 - COMMAND RESETTNG GROUP 2 COUNTERS TO ZERO